



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/726,765	12/03/2003	Qiang Zhou	H0001479 (4700)	4218

7590 11/16/2006

MORGAN, LEWIS & BOCKLUS LLP  
1701 MARKET STREET  
PHILADELPHIA, PA 19103

EXAMINER

BUTLER, PATRICK

ART UNIT PAPER NUMBER

1732

DATE MAILED: 11/16/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/726,765

Applicant(s)

ZHOU ET AL.

Examiner

Patrick Butler

Art Unit

1732

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 03 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 1-14 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 15-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>20040315</u> . | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Election/Restrictions*

Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1-14, drawn to a product, classified in class 428, subclass 373.
- II. Claims 15-20, drawn to a method, classified in class 264, subclass 172.15.

The inventions are distinct, each from the other because of the following reasons:

Inventions I and II are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case the product as claimed can be made by another and materially different process such as extruding a film, dipping into sheath material, and slitting the film.

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

The examiner has required restriction between product and process claims. Where applicant elects claims directed to the product, and a product claim is subsequently found allowable, withdrawn process claims that depend from or otherwise include all the limitations of the allowable product claim will be rejoined in accordance with the provisions of MPEP § 821.04. **Process claims that depend from or otherwise include all the limitations of the patentable product will be entered as a matter of right if the amendment is presented prior to final rejection or allowance, whichever is earlier. Amendments submitted after final rejection are governed by 37 CFR 1.116; amendments submitted after allowance are governed by 37 CFR 1.312.**

Art Unit: 1732

In the event of rejoinder, the requirement for restriction between the product claims and the rejoined process claims will be withdrawn, and the rejoined process claims will be fully examined for patentability in accordance with 37 CFR 1.104. Thus, to be allowable, the rejoined claims must meet all criteria for patentability including the requirements of 35 U.S.C. 101, 102, 103, and 112. Until an elected product claim is found allowable, an otherwise proper restriction requirement between product claims and process claims may be maintained. Withdrawn process claims that are not commensurate in scope with an allowed product claim will not be rejoined. See "Guidance on Treatment of Product and Process Claims in light of *In re Ochiai*, *In re Brouwer* and 35 U.S.C. § 103(b)," 1184 O.G. 86 (March 26, 1996). Additionally, in order to retain the right to rejoinder in accordance with the above policy, Applicant is advised that the process claims should be amended during prosecution either to maintain dependency on the product claims or to otherwise include the limitations of the product claims. **Failure to do so may result in a loss of the right to rejoinder.** Further, note that the prohibition against double patenting rejections of 35 U.S.C. 121 does not apply where the restriction requirement is withdrawn by the examiner before the patent issues. See MPEP § 804.01.

This application contains claims directed to the following patentably distinct species of the claimed invention: With respect to Invention Group I: different species of core material in Claim 7 and different species of melt-processable fluoropolymer in Claim 10. With respect to Invention Group II: different species of core material and different species of melt-processable fluoropolymer in Claim 20.

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species in each claim for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, claims 1 and 9 are generic.

Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

During a telephone conversation with Daniel Golub on 15 August 2005 a provisional election was made without traverse to prosecute the invention of Group II, claims 15-20 and to prosecute the species of poly(ethylene terephthalate) for the species of core material and the species of poly(vinylidene fluoride) as the species of melt-processable fluoropolymer. Affirmation of this election must be made by applicant in replying to this Office action. Claims 1-14 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim

Art Unit: 1732

remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 16-18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

With respect to Claims 16-18, the unit for open volume to sheath material lacks its dimension, which appears to be minutes per Applicant's specification page 8, line 24 through page 9, line 15. For purposes of examination, the Examiner assumes that the claimed unit for the ratio is minutes.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 15, 19, and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Tseng et al. (US Patent No. 6,027,592).

With respect to Claim 15, Tseng teaches a method of making dental floss (producing a fiber) comprising making a bi-component filament with a core material and sheath material of polyvinylidene fluoride (PVDF) (a melt-processable fluorine-

Art Unit: 1732

containing polymer) (see col. 4, lines 37-46; col. 5, line 60 through col. 6, line 5) by providing an extruder and spinneret (spin pack) with a two component extrusion die (forming a sheath core fiber with a sheath and a core from the sheath material and the core material using the spin pack) where the sheath at least partial surrounds the core (see Fig. 3b; col. 4, lines 37-46).

With respect to Claim 19, Tseng et al. teaches the process as claimed as previously described above. Tseng's sheath material and core material would necessarily have the claimed relationship of  $V_s < V_c$  since it has the same sheath material and core material as Applicant (see Specification, page 10, lines 10-24: PET and PV[D]F).

With respect to Claim 20, the core material is polyester (PET) and the sheath material is polyvinylidene fluoride (PVDF) (poly(vinylidene fluoride)) (see col. 4, line 60 through col. 5, line 5; col. 5, lines 42-48).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 19 is rejected under 35 U.S.C. 103(a) as obvious over Tseng et al. (US Patent No. 6,027,592) as applied to Claim 15 above, and further in view of Carter et al. (US Patent No. 5,017,116).

With respect to Claim 19, it is the position of the Examiner that Tseng necessarily teaches the claimed relationship described above. However, in the alternative, if it is shown that Tseng does not teach the claimed relationship, it is the position of the examiner that it would be prima facie obvious in view of Carter.

Carter teaches that lower viscosity material should serve as the sheath and higher viscosity material should serve as the core in a bicomponent fiber (see col. 3, lines 47-53).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have lower viscosity material should serve as the sheath and higher viscosity material should serve as the core in a bicomponent fiber as taught by Carter in the process taught by Tseng because the lower viscosity material tends to wrap the higher viscosity material (see Carter, col. 3, lines 47-53).

Claims 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tseng et al. (US Patent No. 6,027,592) as applied to Claim 15 above, and further in view of Cooksey et al. (US Patent No. 4,072,457).

With respect to Claims 16 and 17, Tseng teaches the method of making a bicomponent as claimed as previously described. Tseng teaches volumetric ratios from 5:95 to 95:5, which reads on the claimed  $W_S/W_C < 0.43$  (Claim 16) and 0.25 (Claim 17) (see col. 4, lines 27-34).

Tseng does not expressly teach that the spin pack has a sheath conduit having a ratio of open volume to sheath material mass flow of no more than 1.2 minutes (Claim 16) or 1.7 minutes (Claim 17).



Art Unit: 1732

However, in this regard, Cooksey teaches a spin pot that minimizes spin pot residence time (ratio of open volume to sheath material mass flow is within the claimed range) (see col. 2, lines 21-26 and 41-56). As such, Cooksey recognizes that that ratio of open volume to sheath material mass flow is a result-effective variable. Since that ratio of open volume to sheath material mass flow is a result-effective variable, one of ordinary skill in the art would have obviously been motivated to determine the optimum ratio of open volume to sheath material mass flow applied in the process of Tseng through routine experimentation based upon minimizing degradation of the polymer (see Cooksey, col. 2, lines 21-26).

With respect to Claim 18, Tseng teaches the method of making a bicomponent as claimed as previously described. Tseng teaches volumetric ratios from 5:95 to 95:5, which reads on the claimed  $W_S/W_C < 0.12$  (Claim 18) (see col. 4, lines 27-34).

Tseng does not expressly teach that the spin pack has a sheath conduit having a ratio of open volume to sheath material mass flow of no more than 3.4 minutes.

Cooksey teaches having a residency time of 2 minutes (ratio of open volume to sheath material mass flow of no more than 3.4 minutes) (see col. 7, lines 21-47).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Cooksey's decreased residency time with the process in Tseng in order to minimize degradation of the polymer (see col. 2, lines 21-26).

### ***Conclusion***


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patrick Butler whose telephone number is (571) 272-


Art Unit: 1732

8517. The examiner can normally be reached on Mo.-Th. 7:30 a.m. - 5 p.m. and alternating Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina Johnson can be reached on (571) 272-1176. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
Patrick Butler  
Assistant Examiner  
Art Unit 1732

  
CHRISTINA JOHNSON  
SUPERVISORY PATENT EXAMINER  
11/13/06